BAKER Products

Baker Sure Chamfer™
User Manual

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INTRODUCTION

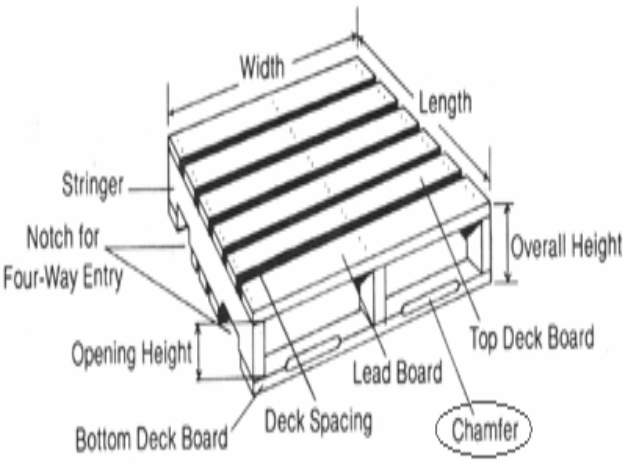
Thank you and congratulations on the purchase of your new ***Baker Sure Chamfer***. It has been designed to be durable, productive and easy to use. When properly used and maintained, it will provide you with many years of profitable operation.

For safety reasons, and for your own best use of the ***Baker Sure Chamfer***, we insist that you read this manual fully, and constantly review and refer back to it as necessary.

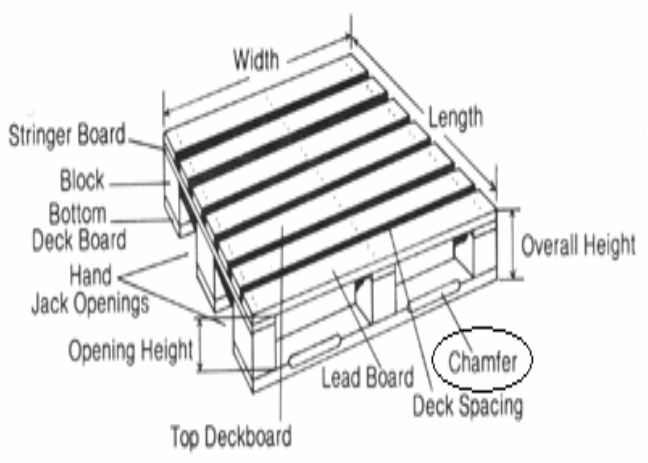
No one should attempt to operate or perform maintenance on this equipment until they have been trained and taken the time to read and understand the information contained in this manual.

Machine Purpose

The ***Baker Sure Chamfer*** is designed to cut (chamfer) pallet deck boards so the edge of one or two faces are beveled, either along the full or specified length of board or between the stringers or blocks, facilitating ease of entry of pallet-jack wheels and tines of forklift trucks.



Stringer Pallet



Block Pallet

Machine Function

The ***Baker Sure Chamfer*** is a totally all-electric powered machine that utilizes a 3 horsepower motor for the main drive power and a 5 horsepower motor for each of the (2) eight wing, 10-inch diameter cutting heads and simple to use in-feed hopper and off-load stacker.

The standard ***Baker Sure Chamfer*** has capacity for boards ranging from 30 inches (min.) to 56 inches (max.) in length, 3 inches (min.) to 6 inches (max.) in width, and 3/8-inch (min.) to 1-½ inch (max.) thickness. It processes approximately 28 boards a minute, or roughly 1,600 an hour.

The ***Baker Sure Chamfer*** has one (1) stationary cutter head while the other cutter head assembly is attached to a slide rail system that produces more consistent chamfers as a result of board width variance. The sliding assembly provides quick and easy adjustments for larger or smaller board widths. Adjustments will be required depending on the length and width of the material being processed or the desired chamfer depth.

Note that the ***Baker Sure Chamfer*** has a single 6-inch dust removal chute and will not operate without proper dust collection for chip removal. This machine requires a minimum of 2,000 CFM suction at the dust removal chute.

Definition of Terms

All Stop	Safety button (typically “red”) designed to immediately shut-down machine operation
Bevel Cut	An angled cut through a board
Cam	An eccentric or multiply curved wheel mounted on a rotating shaft, used to produce variable or reciprocating motion in another engaged or contacted part
CFM (cubic feet per minute)	A measure of the volume of a substance flowing through air within a fixed period of time
Chamfer	A beveled cut along the edge of a board or piece of material
Cutter Head	A device that rotates on an axis and cuts or chamfers
Sliding **Cutter Head**	A cutter head device that is capable of moving, either for adjustment or to compensate for material variance
Deck board	One or more boards or panels comprising the top or bottom surface of the pallet
Diagram	A plan, sketch, drawing, or outline designed to demonstrate or explain how something works or to clarify the relationship between the parts of a whole
Dog	The term "dog" refers to a steel block or tooth that is attached to the feed chain and holds a log or board firmly in place for processing
Edge Guide	A straight edge that is used to guide a tool or material along a piece of material
End Stop	A mechanism designed to stop the progress of an off-loading board
Fence	A straight guide used to keep a board a set distance from a blade or cutter
Hold-down	A device that holds down and steadies the material as it is being cut
Hold-over	A device that holds the material against the fence or rail while being processed
Indexer Bolt	Bolt used to move a device in, out, up or down
In-feed	The direction a work piece (board) is fed into a blade or cutter
In-feed Hopper	The place where material is loaded and readied for processing
Lift Point	A point where pressure can and should be applied for lifting
Lockout / Tagout	The term Lockout/Tagout requires authorized employee(s) to lock and tag the energy-isolating device(s) to prevent the release of hazardous energy in order to prevent injury to employees
Off-load	The side of a machine where the work piece (board) exits
Off-load Stacker	The place where material is moved to after processing, stacked and readied for un-loading
Production Rate	A produced or processed quantity measure with respect to another measured quantity; for example number of boards per minute
Schematic	A structural or procedural diagram, typically of an electrical or hydraulic system

Manual Contents Notice

This manual is not totally comprehensive. It does not and cannot convey every possible safety and operational problem that may arise while using this machine. The manual will cover many of the basic and specific safety procedures needed in an industrial environment.

All federal and state laws and any regulations having jurisdiction covering the safety requirements for use of this machine take precedence over the statements in this manual. Users of this machine must adhere to such regulations.

Machine Specifications and Requirements

FEATURES Production Rate Approximately 28 pieces/minute or 1,600 pieces/hour	Dimensions & Weight Length: 160” (4 m) Width: 48” (1.22m) Height: 58” (1.47m) Weight: 1,600 lbs (726kg)	Cutters Two (2) eight wing x 10” (254mm) diameter with replaceable tip; one head floats to automatically adjust for material variance Sawdust Removal 6” (152mm) outlet; min. of 2,000 CFM suction required at machine dust removal chute
POWER Cutter Motors Two (2) 5-HP (3.7kw)	Feed Motor One (1) 3-HP (1.5kw)	Electrical Standard: 220V or 440V 3-phase 60Hz Other voltages available upon request, machine comes completely pre-wired; NEMA 12 enclosure with starters, disconnects, control voltage transformer and circuit overload protection; start/stop station with All-stop button
CAPACITIES Material Length Minimum 30” (76 cm) Maximum 56” (142 cm)	Material Width Minimum 3” (76 mm) Maximum 6” (152 mm)	Material Thickness Minimum 3/8” (10 mm) Maximum 1 ½” (38 mm)

Warranty

Ellington Industrial Supply, Inc. machinery is warranted against defects in material or workmanship starting from the date of shipment from the manufacturing plant.

This warranty is given solely to the “original purchaser” of the equipment and is in no way to be expressed or implied that it is transferable to any other parties without the written consent and approval from the CEO or Sales Manager of Baker Products.

Our one (1) year warranty period covers all items built at our manufacturing facilities including structural frame, cowlings, doors, shafting, dust chutes, belt extenders, conveyor wheels and guards.

We honor six (6) months of warranty coverage for miscellaneous vendor-purchased-supplied items including bearings, chain, sprockets, hydraulic components, etc.

Ninety (90) days of warranty coverage is provided on all electrical parts. All electrical components and wiring has been installed in accordance with the National Electrical Code (NEC) of the United States of America.

Ellington Industrial Supply, Inc. does not warranty this machine to meet any other requirements or jurisdiction of any electrical or safety codes of any other state, municipality, other country or jurisdiction The purchaser assumes all risk and liability whatsoever resulting from the use thereof whether used singularly or in conjunction with other machinery or apparatus, including, but not limited to, all matters resulting from sawdust generation.

Note: *No warranty is provided on any electrical components or parts if equipment is powered or connected to a roto-phase electrical converter in order to create a three phase power supply for operational current from a single phase source.*

Any change in materials, design, or performance intended to improve any product of Ellington Industrial Supply, Inc. shall not obligate Ellington Industrial Supply, Inc. to modify any previously manufactured equipment.

This manual may contain details that if not properly followed can affect the performance of your equipment. You are responsible for proper use and maintenance of your equipment and we reserve the right to deny warranty work if deemed to be caused by a lack of proper maintenance or negligence by the owner or any of their employees.

Defective Parts

Parts claimed defective must be returned freight prepaid, to our plant in Ellington, Missouri. Any part determined defective due to faulty workmanship or materials will be replaced or repaired (at our option) free of charge, F.O.B. our plant. This warranty does not cover expendable items (i.e. drive belts, band wheels, conveyor belting, blades, cutters, guides, etc.). Except as expressly provided herein, this warranty is in lieu of all other warranties, expressed or implied, including a warranty of merchantability or fitness for a particular purpose. This warranty is "void" if any part of the unit has been tampered with, modified, altered, or operated with parts other than supplied or recommended by Ellington Industrial Supply, Inc. In no event shall Ellington Industrial Supply, Inc. be liable for special, indirect, incidental or consequential damages, however arising, including but not limited to, the loss of earnings or the cost of downtime.

Service Policy

In the event that you have any problems, call us at (573) 663-7711 any time between 8:00 AM and 5:00 PM (CST), Monday through Friday. A member of our trained staff will answer any questions you may have. We charge nothing for this service.

The only charge is for replacement parts not covered by warranty or after our inspection we deem that the problem is due to operator error or lack of proper maintenance or neglect.

If it is necessary for a member of our service department to visit your plant at your request, there will be a charge for this service. Call our service department for current prices.

Retain this Information for your Records

Model Number: ……
Serial Number: ……
Date of Purchase: ……
Electrical: ……
Dust Removal: ……

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RULES FOR SAFE OPERATION

The purpose of safety symbols and signage is to draw your attention to real or possible hazardous conditions that may exist when operating this equipment. Please remember that safety symbols and signage alone do not eliminate danger and are not substitute for proper training and education regarding operational hazards.

	This symbol and warning indicates a potentially hazardous situation, which, if not avoided, will result in death or serious injury.
	This symbol and warning indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
	This symbol and warning indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
	This warning provides notice and instruction regarding a potentially hazardous situation, which, if not avoided will result in serious injury or death.

SAFETY EXPECTATIONS FOR OPERATING POWER EQUIPMENT

ALWAYS…

- *ENSURE THAT TRAINED PERSONNEL OPERATE, MAINTAIN AND REPAIR THIS EQUIPMENT*
- *TURN POWER OFF AND LOCKOUT / TAGOUT PRIOR TO PERFORMING MAINTENANCE*
- *KEEP WORK AREA CLEAN AND WELL LIGHTED TO MINIMIZE OR ELIMINATE HAZARDS*
- *KEEP CHILDREN AND VISITIORS AWAY FROM OPERATING EQUIPMENT*
- *OPERATE THE EQUIPMENT AT THE RATE IT WAS DESIGNED FOR*
- *KEEP GUARDS IN PLACE WHEN OPERATING EQUIPMENT*
- *REMOVE TOOLS BEFORE RESUMING OPERATION*
- *USE PROPER EXTENSION CORD*
- *WEAR PROPER APPAREL AND AVOID CLOTHING AND ACCESSORIES THAT COULD GET CAUGHT IN MOVING PARTS*
- *ALWAYS WEAR SAFETY GLASSES AND HEARING PROTECTION*
- *AVOID "KICK-BACK" BY KNOWING WHAT CONDITIONS CAN CREATE IT*
- *CHECK DAMAGED PARTS AND REPAIR OR REPLACE THEM IMMEDIATELY*

NEVER…

- *LEAVE TOOL RUNNING OR UNATTENDED, ALWAYS TURN POWER OFF*
- *OPERATE EQUIPMENT WHEN TIRED, FATIGUED OR UNDER THE INFLUENCE OF DRUGS OR ALCOHOL*
- *ALLOW UNTRAINED PERSONNEL TO OPERATE, MAINTAIN OR REPAIR THIS EQUIPMENT*

No list of safety expectations can ever be complete as every work environment is as different as the people operating it.

Always keep safety as your highest priority and always use this machine with caution and respect.

Control of Hazardous Energy – (Lockout / Tagout)

Lockout / Tagout (LOTO) refers to specific practices and procedures to safeguard employees from the unexpected energy, startup of machinery/equipment, or the release of hazardous energy during service or maintenance activities.

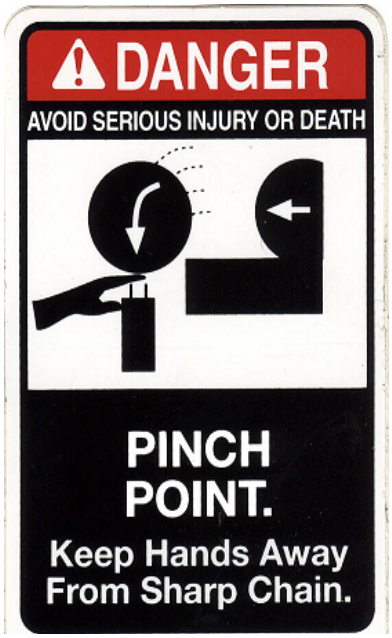
This requires that a designated individual turn off and disconnect the machinery/equipment from its energy source(s) before performing service or maintenance and that the authorized employee(s) lock and tag the energy-isolating device(s) to prevent the release of hazardous energy and take steps to verify that the energy has been isolated effectively.

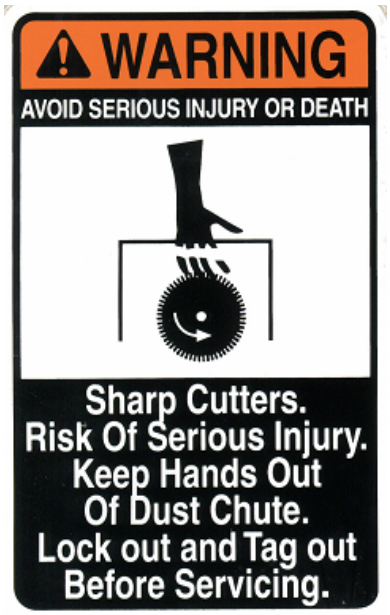
List of Related Terms

Affected Employee	An employee whose job requires them to operate a machine or piece of equipment on which service or maintenance is being performed under Lockout / Tagout.
Authorized Employee	A person who locks or implements a tagout system procedure on machines or equipment to perform the service or maintenance on that machine or equipment. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing service or maintenance.
Energy Source	Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
Lockout	The placement of a lockout device (such as a lock) on an energy-isolating device, in accordance with an established procedure that ensures that the energy-isolating device and the equipment being controlled cannot be operated until the lockout device is removed.
Servicing and / or Maintenance	Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or un-jamming of machines or equipment, and making adjustments or tool changes where the employee may be exposed to the unexpected energy, start-up of equipment or release of hazardous energy.
Tagout	The placement of a tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

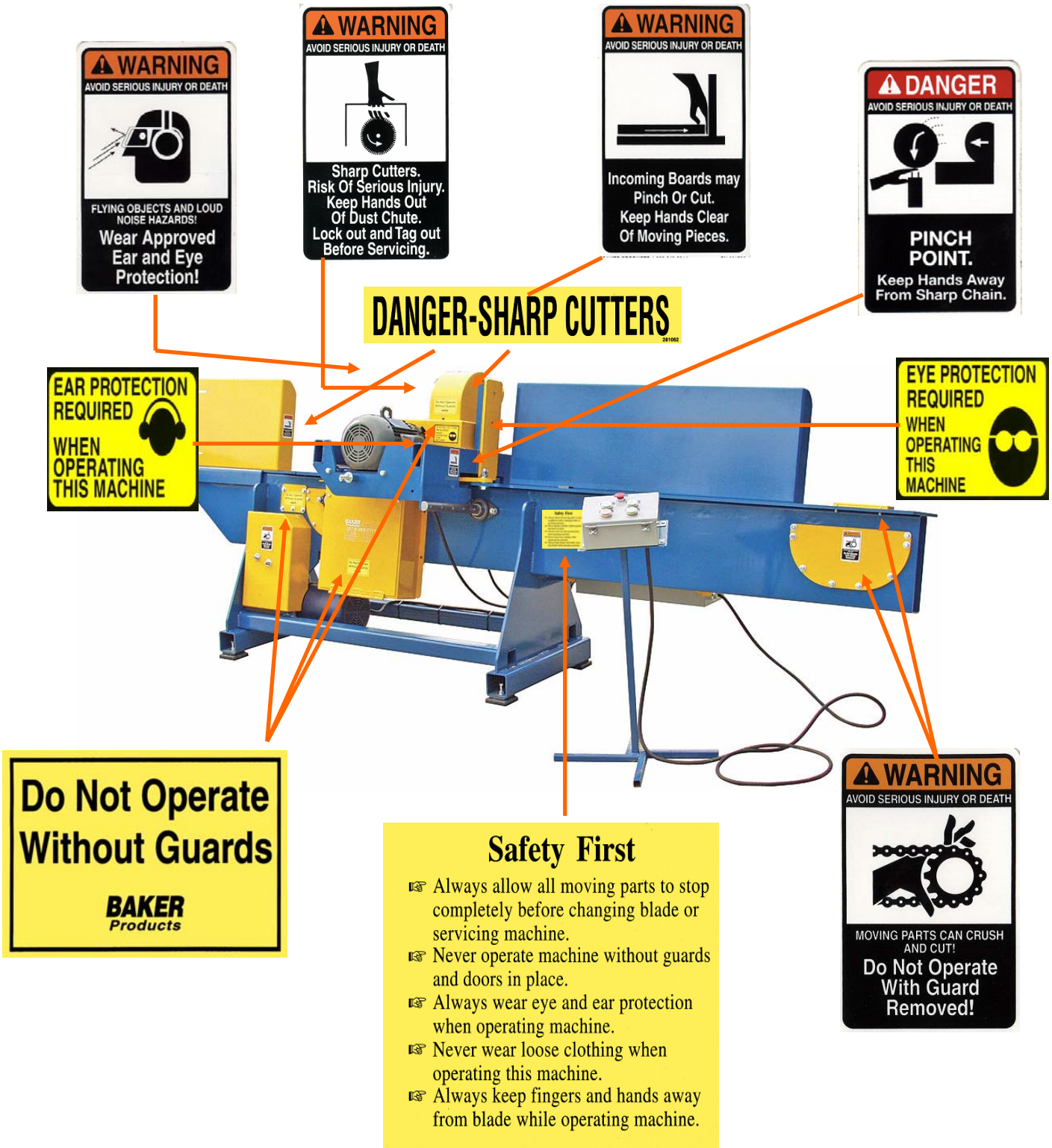
Example of lockout tags, lockout hasp and keyed lock

Machine Safety Decals ** *Adhere to ALL Safety Warnings!* **





Machine Safety Decal Locations

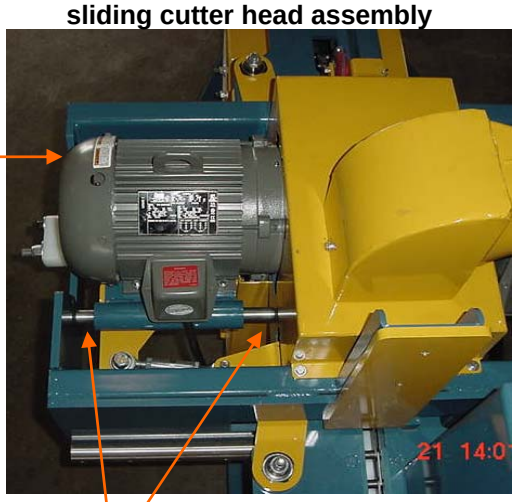


MACHINE FEATURES

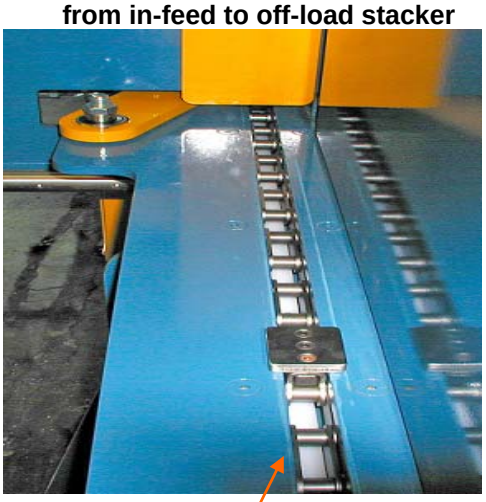
We want to highlight the unique and special features that make the ***Baker Sure Chamfer*** fast, easy and smooth to operate.

- Heavy duty steel construction
- Totally all electric powered - no air or hydraulics required
- Single chain drive takes boards from in-feed hopper through cutters to off-load stacker
- Machine operates on 20 degree angel for easy material handling and smooth operation
- A single sliding cutter head assembly allows for quick and easy board width adjustment

Over-head view of the sliding cutter head assembly



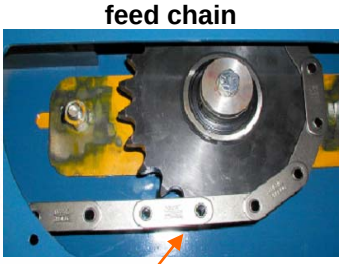
A single chain transports boards from in-feed to off-load stacker

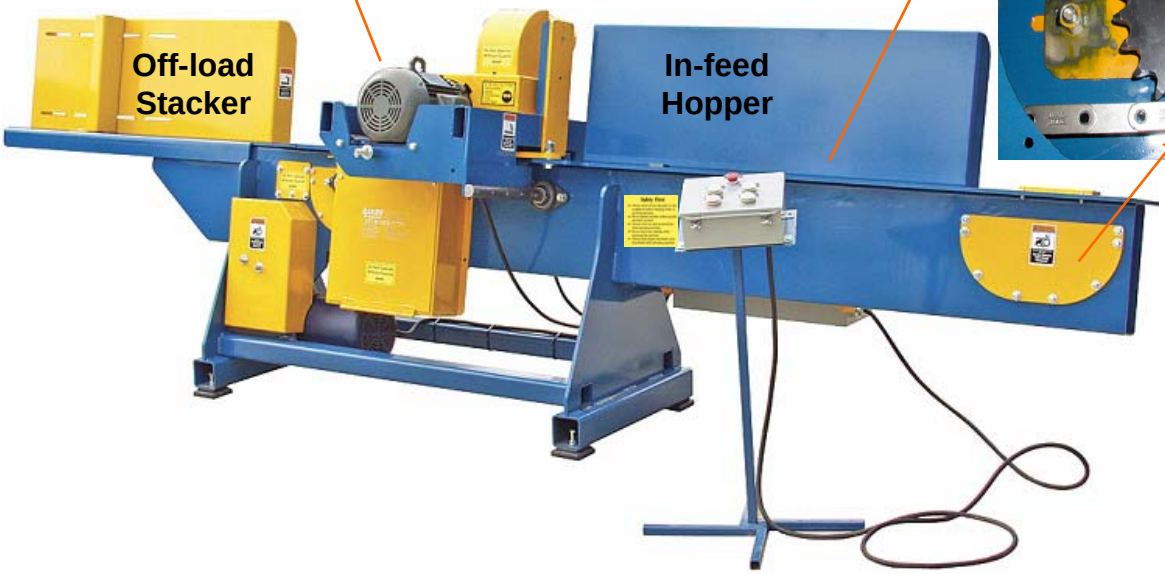


Cutter head assembly attached to stainless steel rails for easy adjustment

Dust Removal Chute

Inside view of heavy duty feed chain





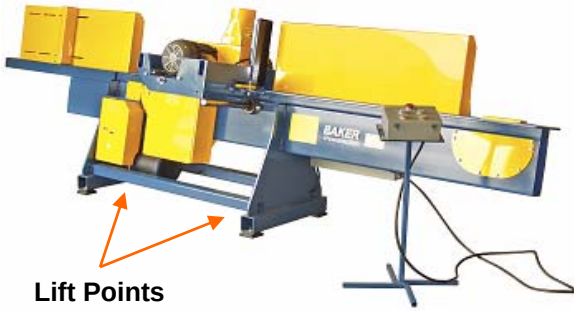
INSTALLATION
Receiving and Inspection

- ❑ Upon receipt and prior to signing carrier's documents, conduct a walk-around and visual inspection of your new equipment. Note any damage in writing upon the carrier's bill of lading and contact us immediately.

Note: *All new equipment is assembled and thoroughly tested prior to shipment, however damage may occur during transit, which could cause the machine to not operate correctly during start-up.*

Unpacking

- ❑ If machine was delivered via flatbed trailer, remove straps or chains securing it in place.
- ❑ If machine was delivered by crate, carefully remove upper crating materials from the base skid.
- ❑ Remove lag screws, strapping, etc. that attaches the machine to the skid.



Machine Moving

- ❑ Lift machine at the indicated lift points only.
  - o Use a safety strap to avoid tip-over.
- ❑ Transport machine to the installation site.

Machine Positioning (*Placement, Leveling, Alignment*)

- ❑ For optimum performance, designate a solid and level foundation that is covered and dry, free of environmental elements such as rain or snow that could cause electrical or slip hazards.
- ❑ Provide a minimum of 3 feet of clear workspace in front of the electrical panel.
- ❑ Provide a minimum of 4 feet of clear workspace in front of in-feed hopper and off-load stacker areas.

Power and Utilities Requirements

- ❑ For safe and effective operation confirm your incoming voltage and available amperage is equal to what the machine has been wired for at the factory.

DANGER

  - ➢ ***A qualified electrician should complete electrical connections and check for correct motor directional rotation.***
- ❑ Ensure all wiring and electrical connections are located in a safe position and away from any hazardous conditions.
- ❑ Efficient dust and chip removal requires a minimum of 2,000 CFM suction at the machine dust removal chute. This is an employer/owner responsibility.

SET-UP AND OPERATION

Operator Training

- ❑ According to many OSHA, ANSI, STATE, and LOCAL CODES, it is the EMPLOYER'S RESPONSIBILITY to:
  - ➢ Permit only trained and authorized employees to operate and maintain equipment.
  - ➢ Inspect and maintain guards, safety devices and start/stop controls.
  - ➢ Instruct, train and supervise the safe method of work.

- ❑ Be sure personnel are properly trained and safety rules are clearly understood before operating or performing maintenance.

  - ✓ **Operator**
  - ✓ **Machine**
  - ✓ **Guards**
  - ✓ **Devices**
  - ✓ **Instructions**

  All of these together make up the safety system. Failure of any one of these factors will increase accident potential.

Initial Start-Up

- ❑ Perform a "bump" to the motor for phase rotation by turning on the power for 1 second.
- ❑ Perform a dry run (without boards) of the machine operation prior to loading and chamfering boards.

Adjustments

- ❑ Adjustments will be required depending on the length and width of the material being processed or the desired chamfer depth.
- ❑ Detailed diagrams and instruction is provided on pages 18 - 23.

Note: *It is recommend you run sufficient test boards through the equipment before making initial chamfer depth adjustments and after any other adjustments that are made.*

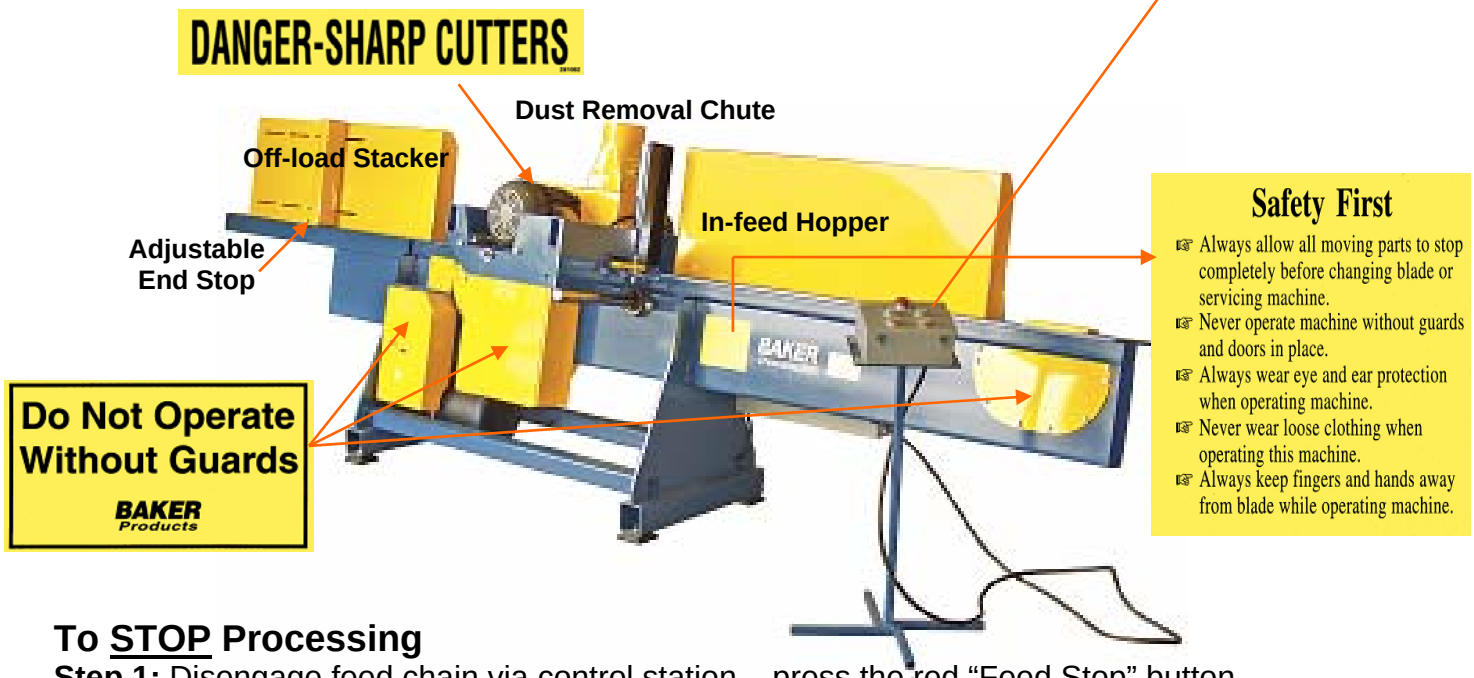
Note: *Prior to start-up and then again after two weeks, check that all nuts/bolts and chains are tight. Then follow the instruction and schedule outlined in the Inspection and Preventative Maintenance section.*

Getting Started

To BEGIN Processing

Step 1: Verify desired board width, length and chamfer depth is set.
(Reference the section on Making Adjustments for detailed diagrams and instruction)
Step 2: Complete a visual inspection to ensure all guards/covers are in place and secure.
Step 3: Engage Cutter(s) via control station – press the green "cutter" button(s)**.**
Step 4: Load boards onto the in-feed hopper.
Step 5: Engage feed chain via control station – press the green "feed start" button.
Step 6: Monitor equipment operation and un-load finished material as necessary.

Control Station



To STOP Processing

Step 1: Disengage feed chain via control station – press the red "Feed Stop" button.
Step 2: Disengage cutter heads by pressing the "All Stop" button. *Cutter heads will coast to a stop.*

General Clean Up

- ❑ ***Follow proper Lockout / Tagout procedures prior to cleaning any part of the machine.***
- ❑ Use an air-hose to blow-off the dust and wood chips that accumulate in and around the machine.
- ❑ Machine operator is closer to operating mechanism of the machine during clean up than during production – extra care should be taken.
- ❑ Do NOT clean with flammable or combustible materials.
- ❑ Follow applicable codes and standards with regards to:
  - Ventilation and monitoring of work area for excessive accumulation of hazardous vapors
  - Wearing personal protective equipment for handling materials
  - Using proper procedure for disposing of all waste materials

In-feed to Off-load Stacker Illustration

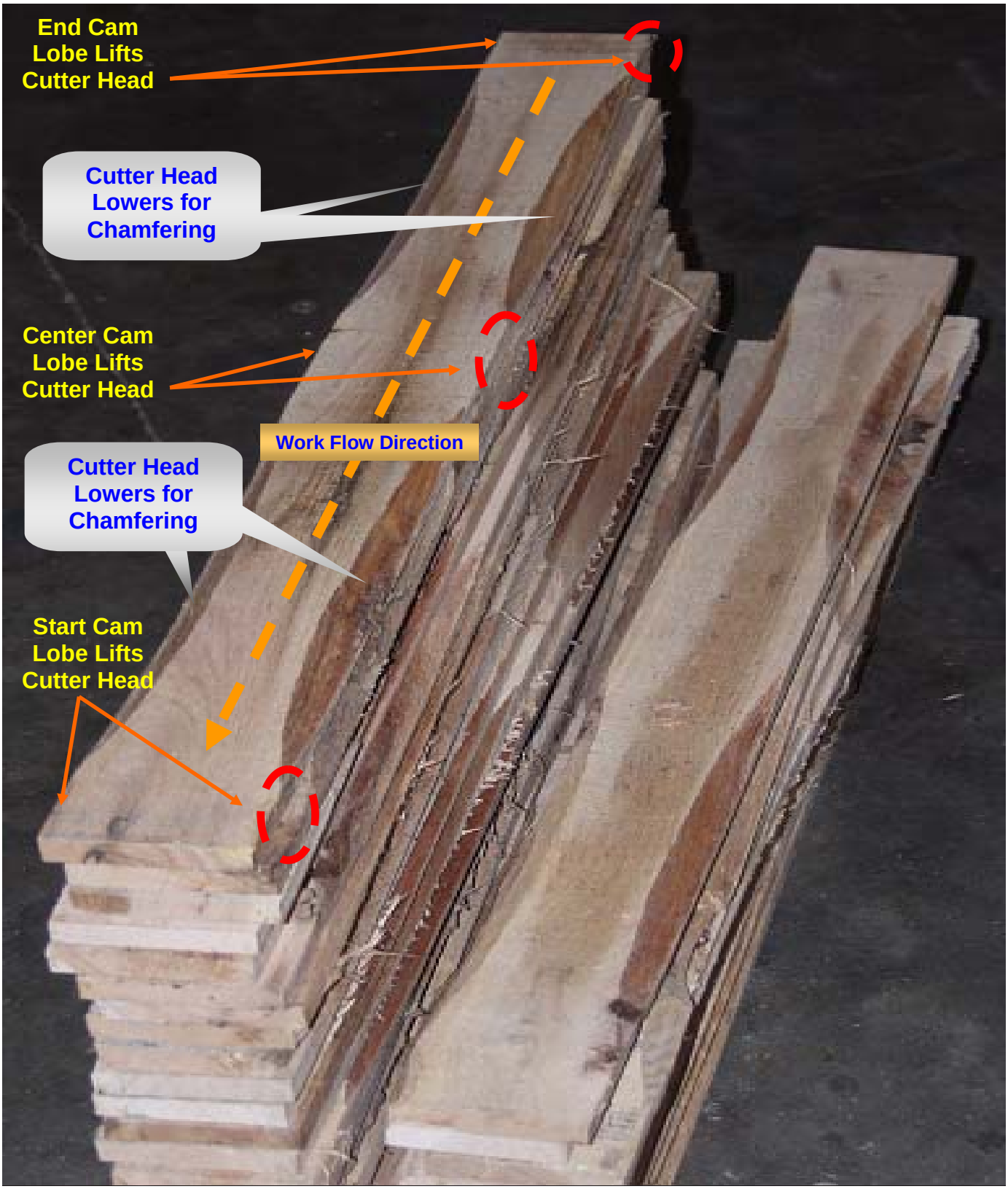
Stack of boards at in-feed ready for processing

Note the optional vertical dust chute in picture to the left.

Standard models include 90 degree dust chute

Stack of chamfered boards at off-load stacker ready for removal

Chamfer Illustration – Work Flow & Finished Product



Making Adjustments

Adjustments will be required depending on the length and width of the material being processed or the desired chamfer depth. Detailed diagrams and instruction follows.

Diagram A

Adjusting for **In-feed Board Length**

- ❑ Ensure machine power is off and locked-out / tagged-out.
- ❑ Access the chamfer length cam (A-1) via the access panel.
- ❑ Loosen and adjust the START cam lobe and CENTER cam lobe to the actual board length.
- ❑ Close and secure the access panel.
- ❑ Remember to also adjust the off-load end stop. (*see Diagram B on page 19*)
- ❑ Cycle sufficient test boards to verify proper adjustment has been made.
- ❑ Never adjust the END cam lobe from the position noted in the illustration below.

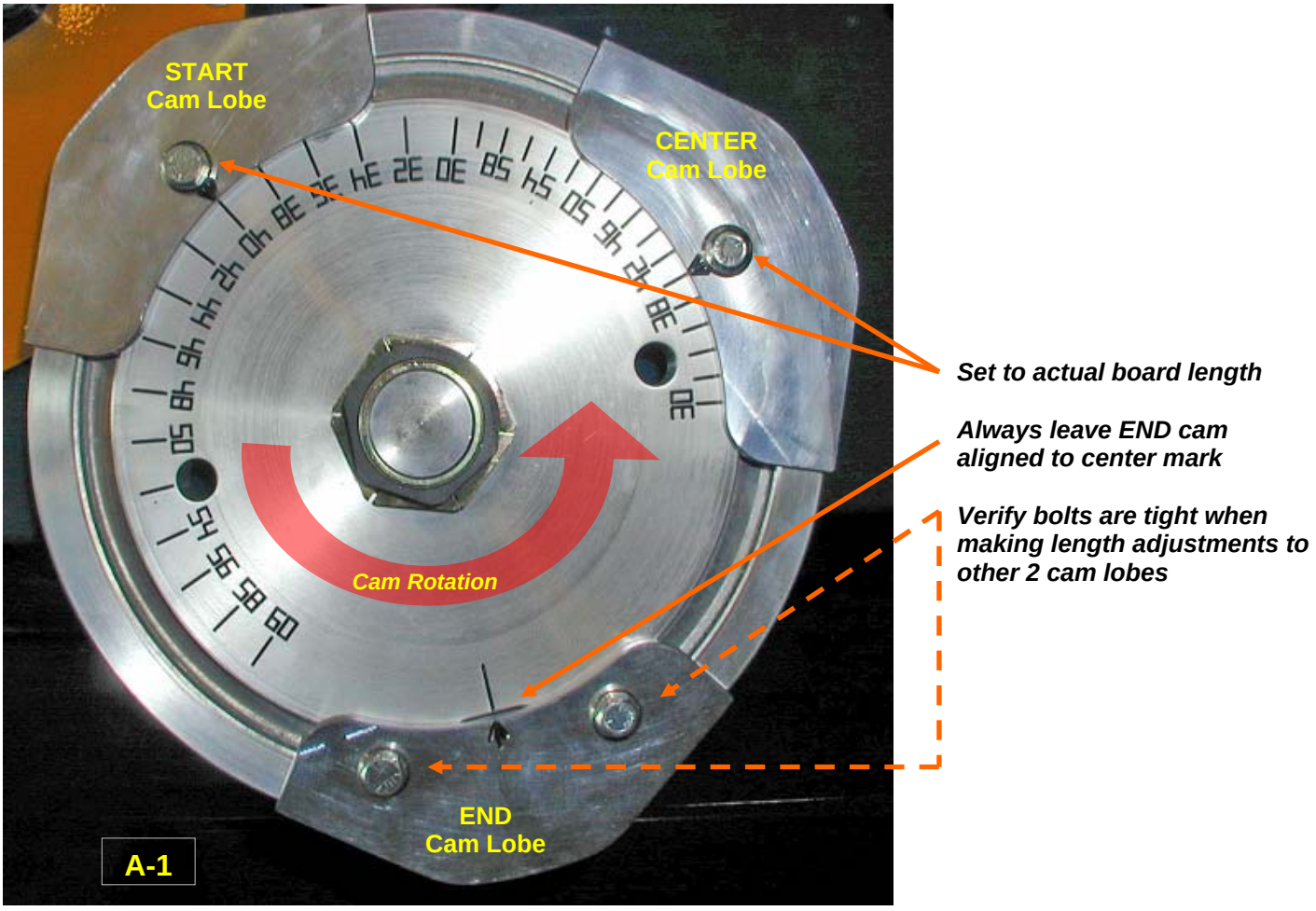
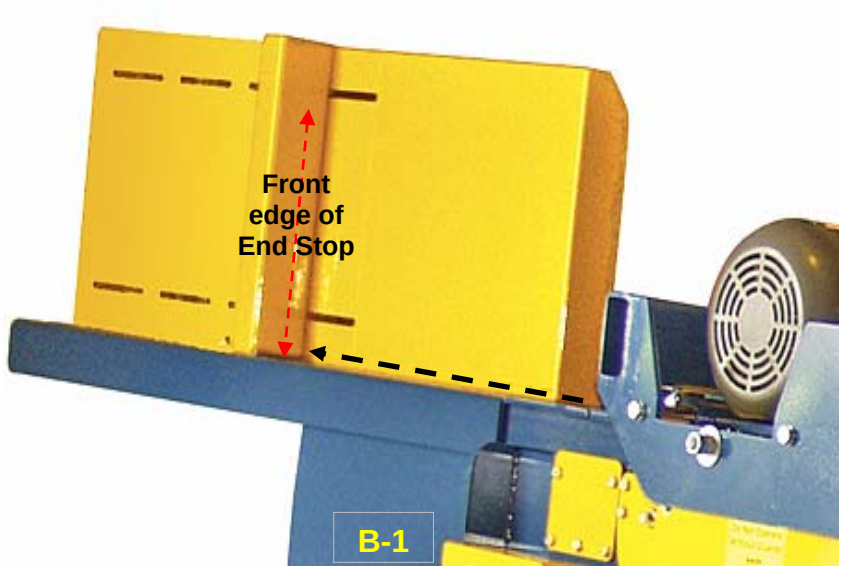


Diagram B

Adjusting for **Off-Load Stacker Board Length**

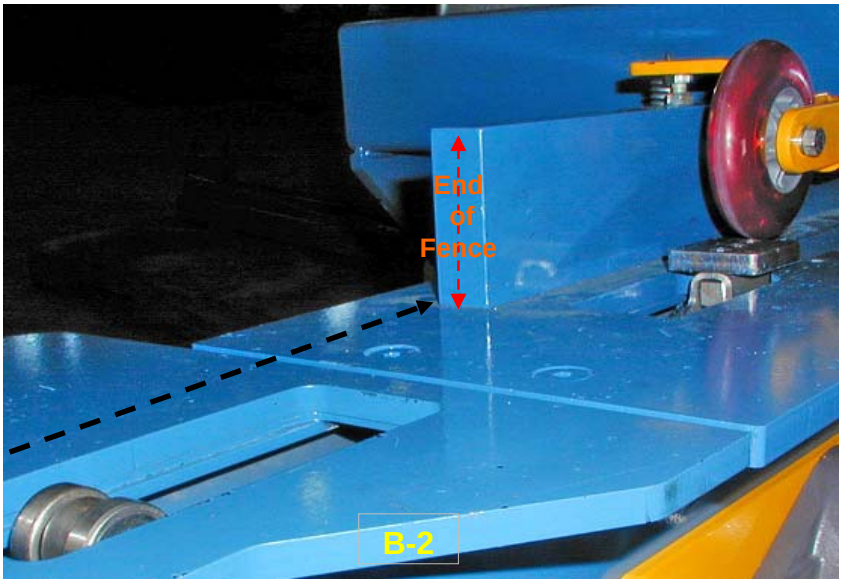
- ❑ Ensure machine power is off and locked-out / tagged-out.
- ❑ Loosen off-load end stop so that it can slide easily.
- ❑ Measure from the *front edge* of the end stop to the *end* of the fence (B1 & B2).
- ❑ To avoid blockage or kickback during off-load, set end stop distance to slightly exceed (*up to 6 inches*) the board length being chamfered.
- ❑ Re-assemble and tighten all nuts and bolts.
- ❑ Cycle sufficient test boards to verify proper adjustment has been made.



Front view of off-load End Stop

Adjust for length of board being chamfered

Re-assemble and tighten all nuts and bolts when finished

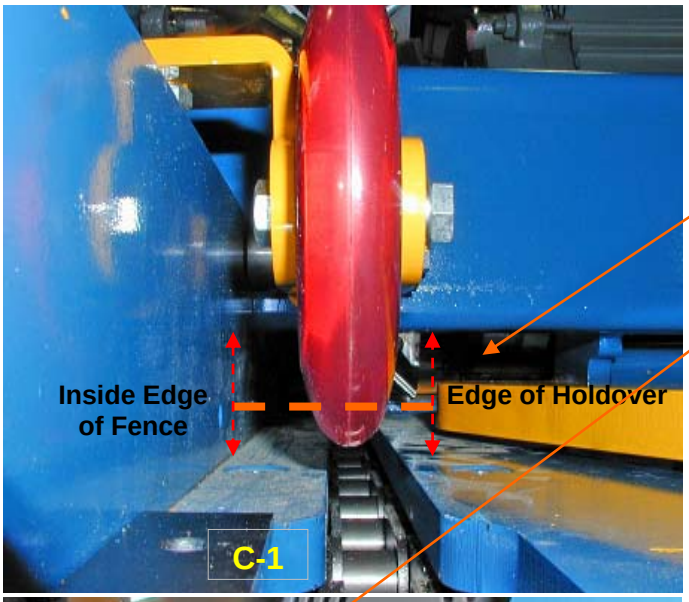


Left side end view of Fence

Diagram C

Adjusting for **Board Width**

- ❑ Ensure machine power is off and locked-out / tagged-out.
- ❑ Measure current board width setting by measuring from the inside edge of the fence to the inside edge of the holdover (C-1).
- ❑ A spacer is attached for quick and easy adjustment from 3.5” to 5.5” (C2 & C3). Pull out on the front-side motor to slide the entire assembly and lock or unlock spacer.
- ❑ An alternative method for adjusting width is to turn the indexer nut to move the entire sliding assembly in or out (C2 & C3).
- ❑ Cycle sufficient test boards to verify proper adjustment has been made.

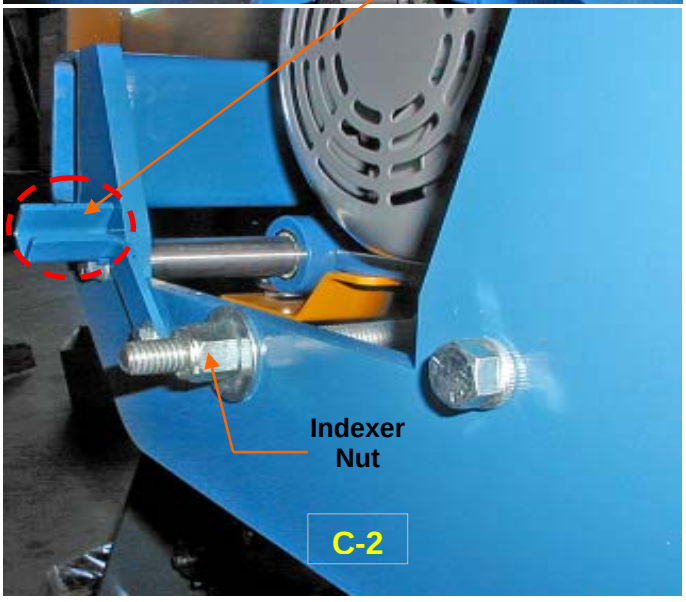


To check current board width setting measure from inside edge of Fence to inside edge of Holdover per the picture to the left.

View with sliding cutter head assembly set at 3.5” with the 5.5” spacer unlocked.

View with the 5.5” spacer locked in position.

Note: ***Pull outward on the top of the motor to slide the entire sliding cutter head assembly for easy locking or un-locking of the attached spacer.***



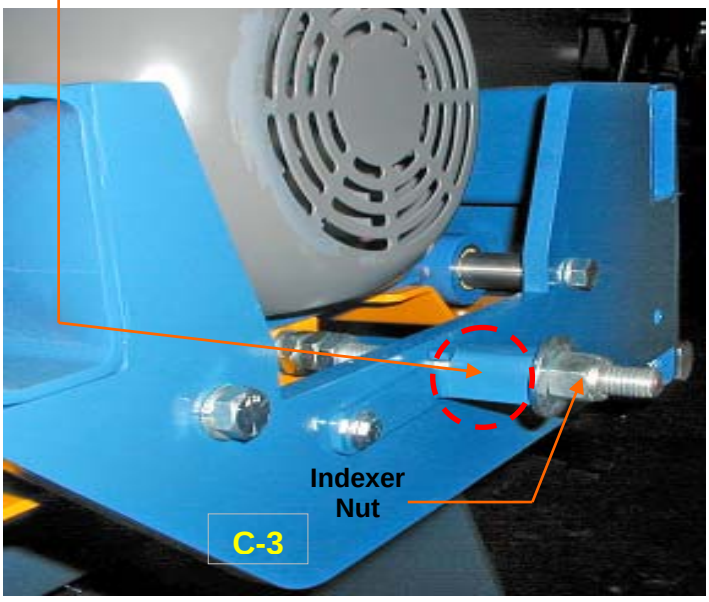
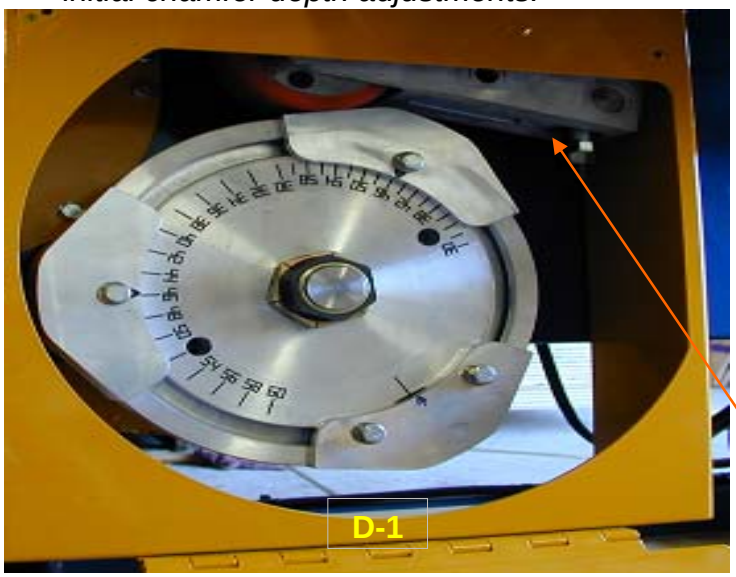


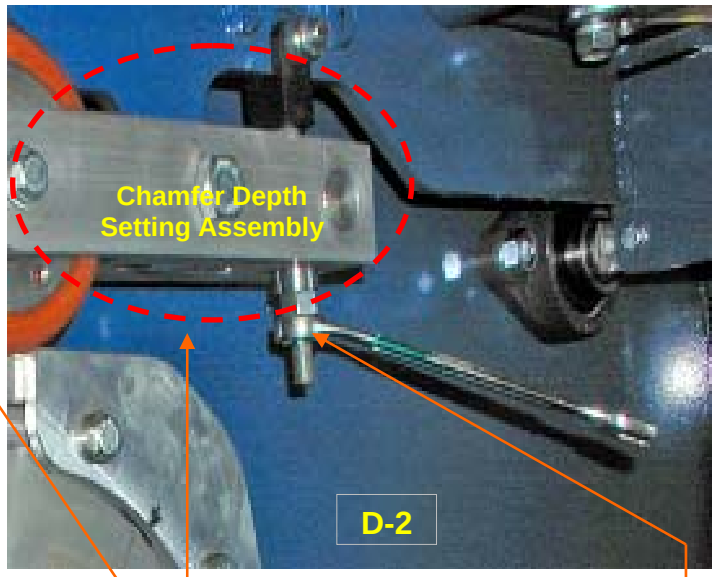
Diagram D

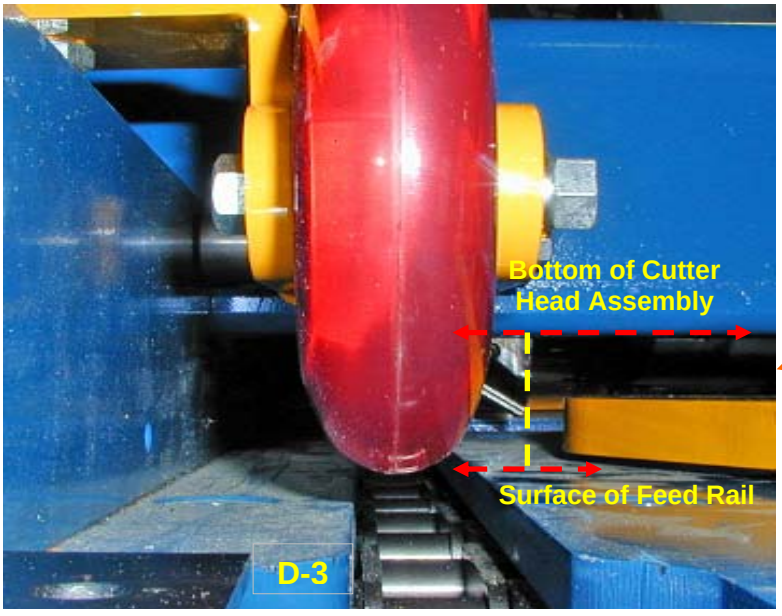
Adjusting for **Chamfer Depth**

- ❑ Ensure machine power is off and locked-out / tagged-out.
- ❑ Access the chamfer depth setting assembly via the access panel (D-1).
- ❑ Measure current chamfer depth setting by measuring from the *surface* of the feed rail to the *bottom* of the cutter head assembly cross member (D-3)
- ❑ Turn indexer nut (**right**) to raise assembly & decrease chamfer depth; turn indexer nut (**left**) to lower assembly & increase chamfer depth (D-2).

Note: *It is recommend you run sufficient test boards through the equipment before making initial chamfer depth adjustments.*







View of the chamfer depth setting assembly via the access panel

Adjust indexer nut to move chamfer depth wheel assembly up or down to achieve desired chamfer depth

Measure current chamfer depth setting per the illustration to the left

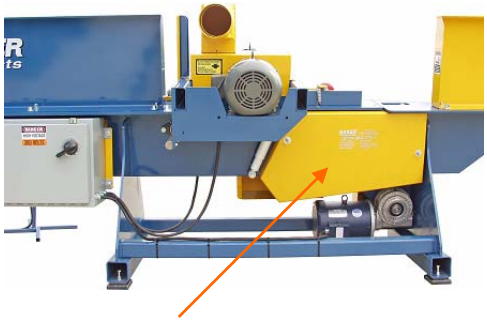
Run sufficient test boards to verify desired chamfer depth is being achieved

Diagram E

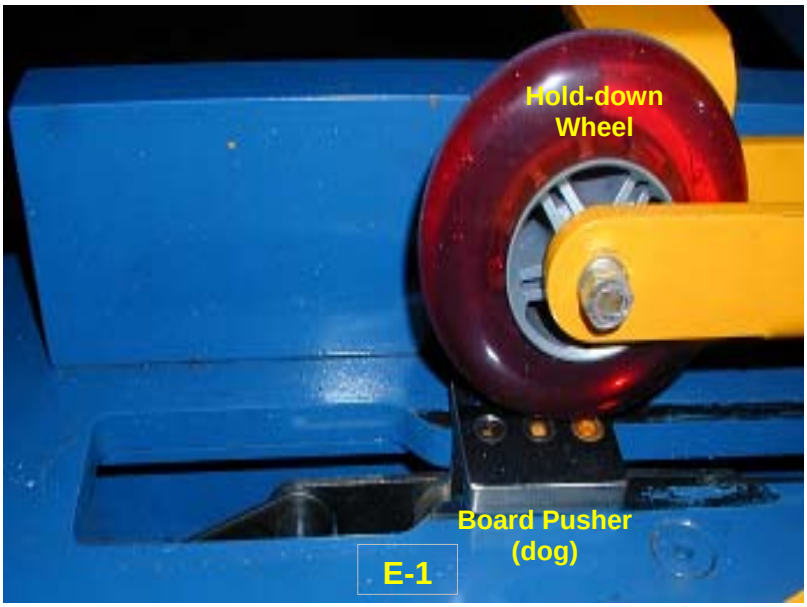
Adjusting for **Off-Load Stacker Timing**

Note: *The off-load stacker is tested and pre-set prior to delivery so ideally no adjustments should need to be made upon receipt and start-up.*

- ❑ Ensure machine power is off and locked-out / tagged-out.
- ❑ Remove the guard on the *back of the machine* to access the off-load stacker components.
- ❑ Using a hand tool, *cycle* the feed chain sprocket until the board pusher (dog) is in the position noted in the illustrations below (E-1 & E2).



Remove guard to access off-load stacker components



Cycle the feed chain until the board pusher (dog) is in the position noted to the left

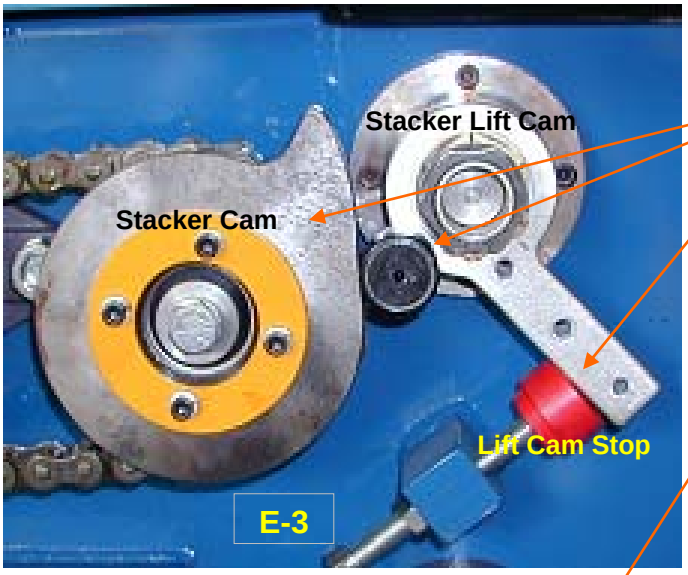
Extended view of above photo

Diagram E

Adjusting for **Off-Load Stacker Timing**

(continued)

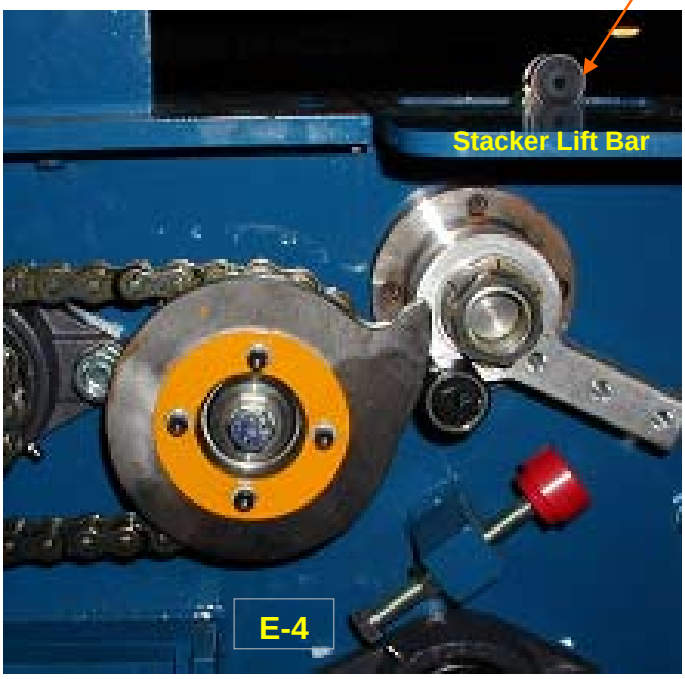
- ❑ With the board pusher (dog) in the position noted on the previous page, *loosen* the nuts / bolts for the stacker cam, stacker lift cam and lift cam stop and adjust to the positions illustrated below (E-3).
- ❑ *Tighten* the stacker cam, stacker lift cam and lift cam stop nuts / bolts.
- ❑ Use a hand tool to *cycle* the feed chain forward and verify that the stacker lift bar rises as the board pusher (dog) clears the hold-down wheel per (E-4 & E-5) below.
- ❑ Replace guard and run test boards to verify proper stacking is occurring.

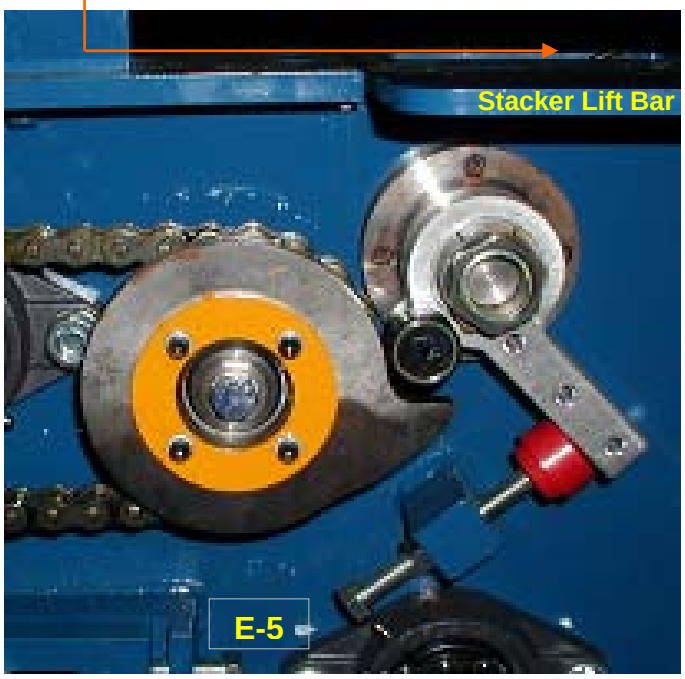


With board pusher (dog) in position noted on previous page, adjust the 3 parts to the left to the positions in the picture to the left

Cycle the feed chain forward and verify that the stacker lift bar rises as the board pusher (dog) clears the hold down wheel

After completing its cycle, the stacker lift bar drops below the deck awaiting the next board to be stacked





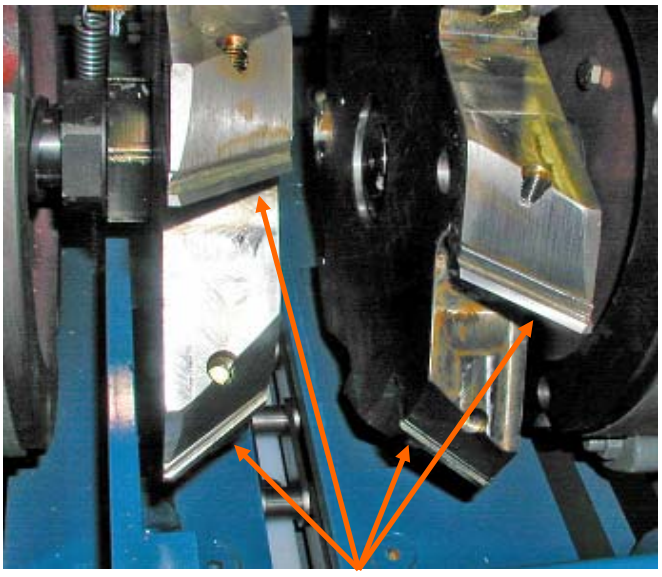
MAINTENANCE
Inspection and Preventative Maintenance

Note: *Prior to start-up and then again after two weeks check that all nuts/bolts and chains are tight, then follow the schedule outlined below from that point forward.*

DANGER ***Lockout / Tagout power supply prior to inspecting or performing any preventative maintenance.***

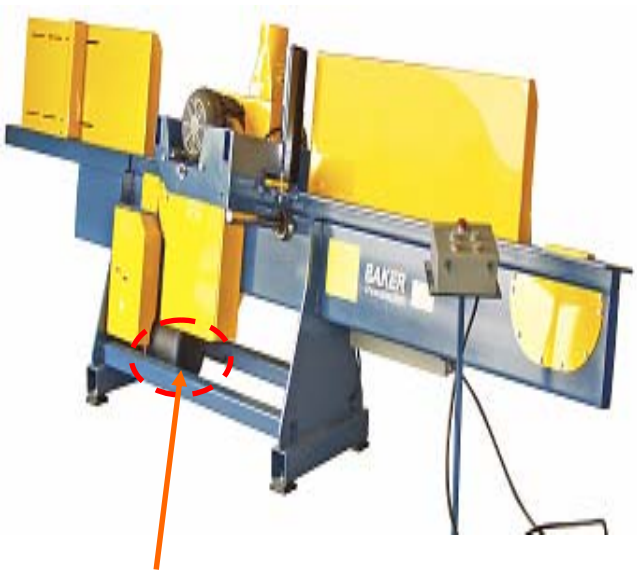
Part	Frequency	Recommendation
Entire Machine	Daily	Use an air-hose to blow-off the dust and wood chips that accumulate in and around the machine.
Carbide cutters	Daily	Safely check sharpness by inspecting chamfer quality; replace as necessary. (*Illustration below*)
Drive motor	Daily	Check for excessive heat and vibration. (*Illustration below*)
Tran torque bushings (5)	Monthly	Check Tran torque cam bushings to ensure tightness. Recommended tightness = **440 ft / lb** of torque. (*Illustration page 25*)
Chain tension	Monthly	Chains should have ½" deflection, not loose, floppy or too tight. (*Illustration page 26*)
Chain lubrication	Monthly	Lubricate all drive chains. Recommend **Zep 2000**
Gearbox	N/A	Maintenance free.

Check Daily



Check cutter blades daily by monitoring chamfer quality

Check Daily



Check drive motor daily for excessive heat and vibration

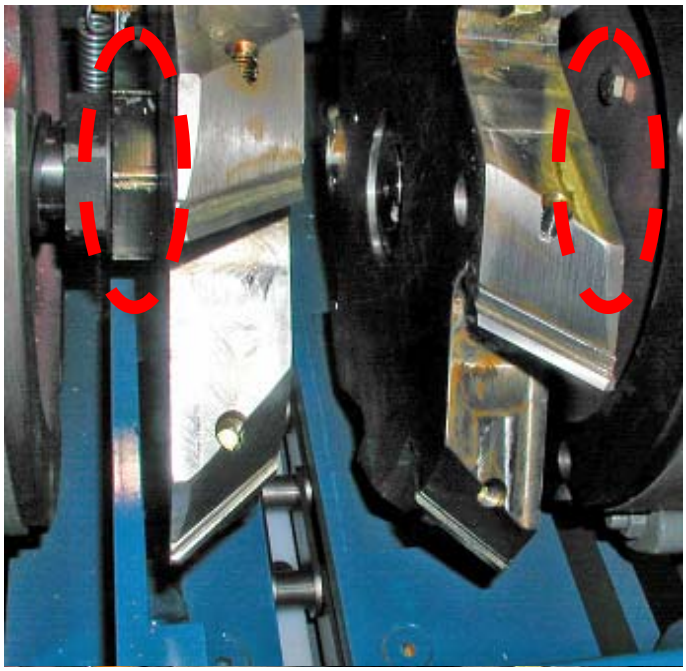
Trantorque Cam Bushing Locations – 5 in All

Recommend tightness = 440 ft / lb.

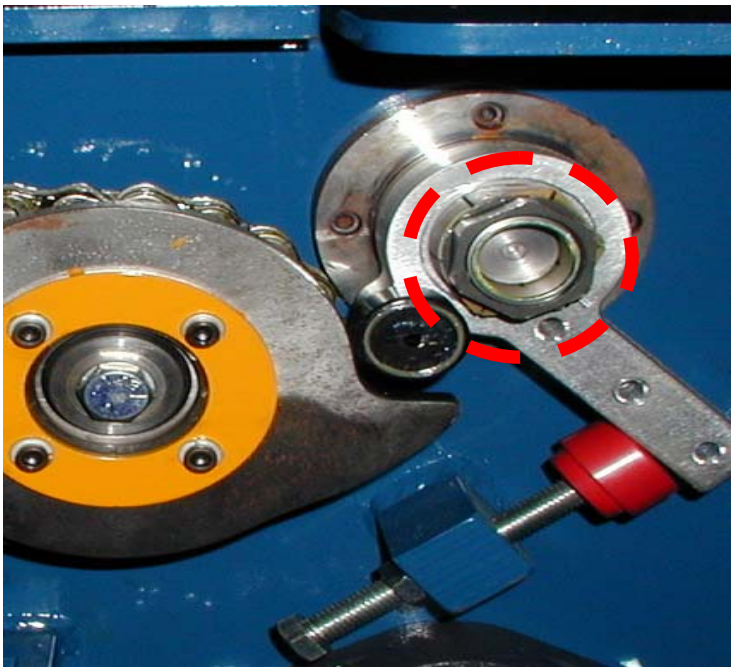
DANGER ***Lockout / Tagout power supply prior to checking torque and remember to re-install guards before re-starting machine operations.***

Check Monthly

One on each Cutter head Assembly (2)

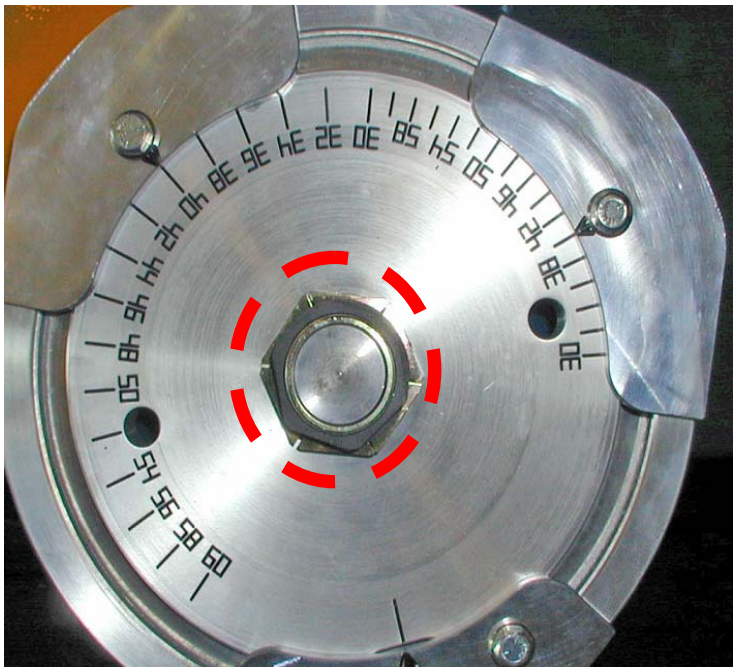


Stacker Lift Cam (1)



Main Drive Chain (1)

Chamfer Length Cam (1)

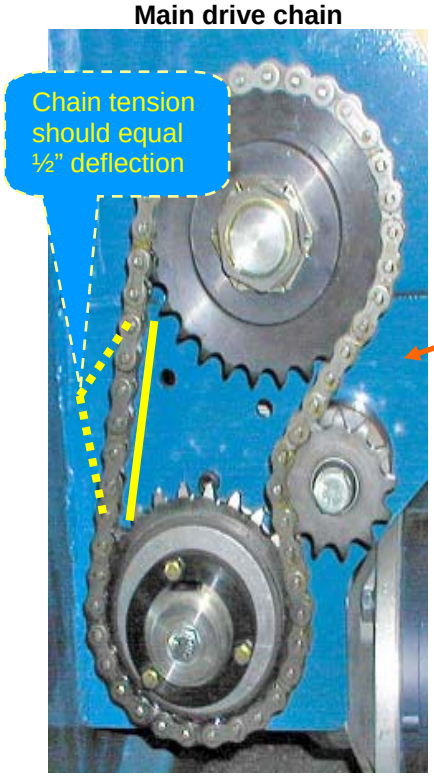


Chain Locations

DANGER ***Lockout / Tagout prior to performing any checks or maintenance.***

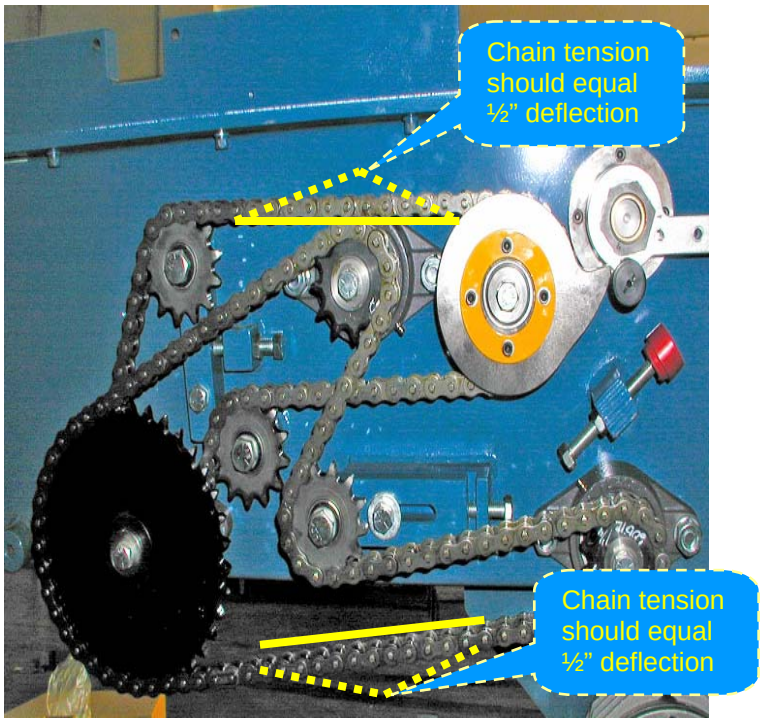
Check Monthly – Lube & keep chain tension at ½" deflection

Main drive chain

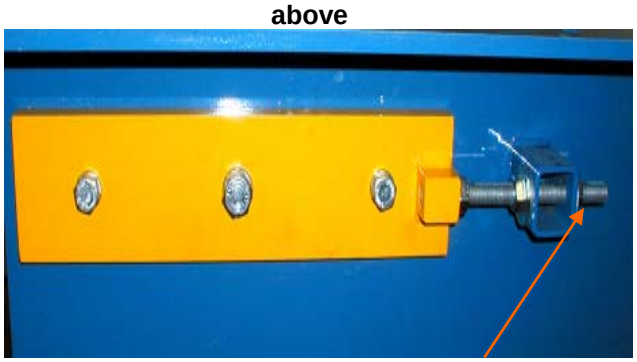


Inside view of heavy duty feed chain

Feed chain and stacker lift cam chain assembly Located on back-side of machine



Feed chain tension adjust – opposite of view above



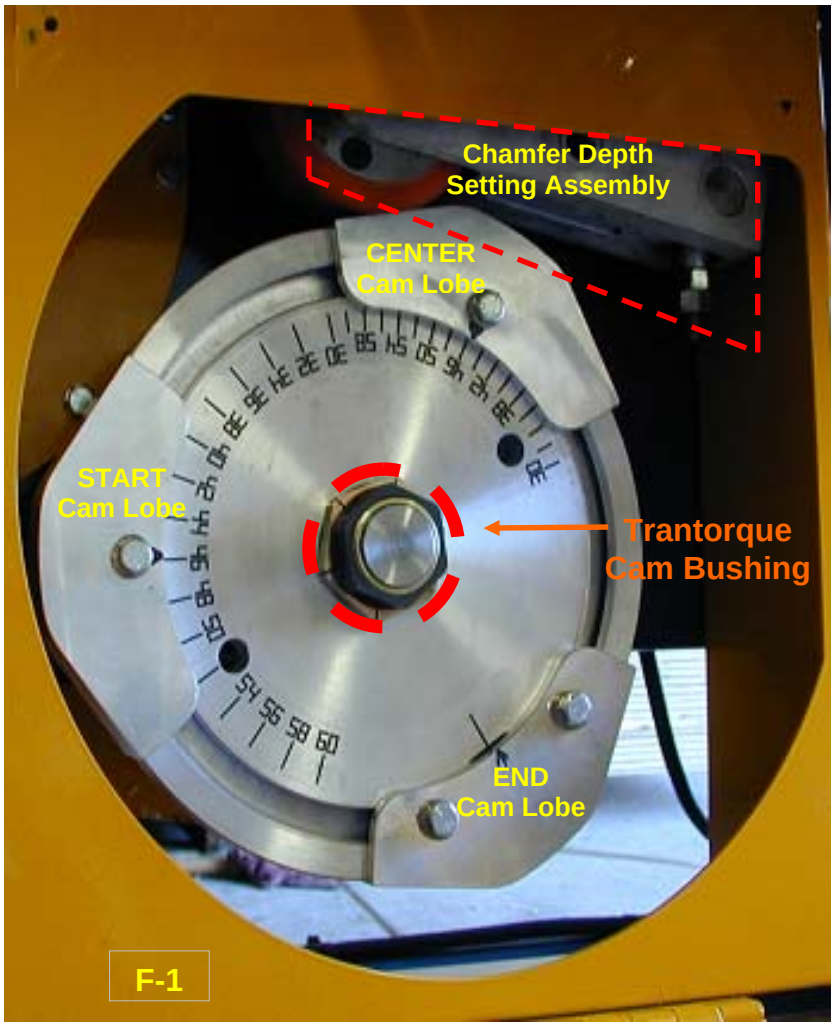
Turn end nut to adjust chain tension

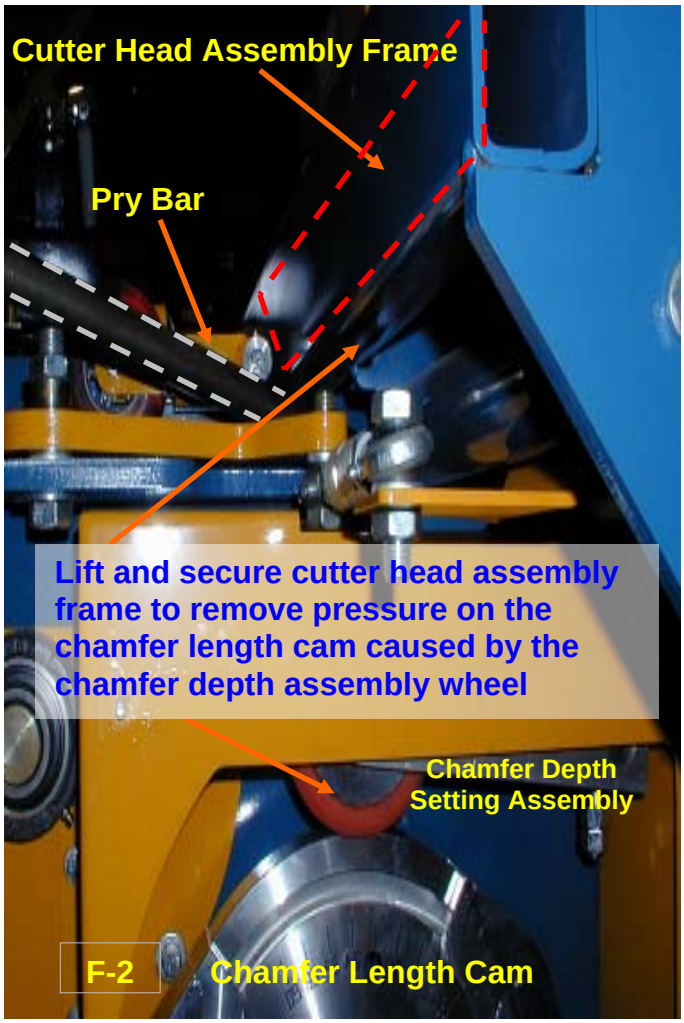
Recommend Zep 2000 chain lubricant

Changing the Chamfer Length Cam

DANGER ***Lockout / Tagout prior to changing chamfer length cam***

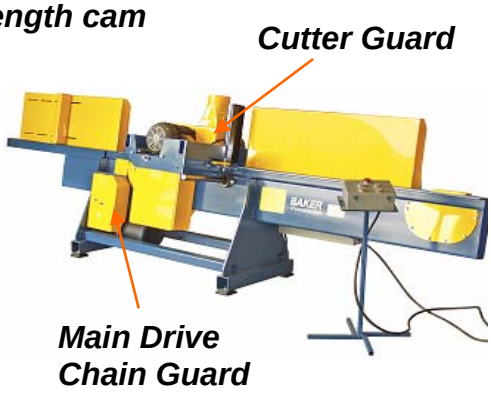
- ❑ Ensure machine power is off and locked-out / tagged-out.
- ❑ Access the chamfer length cam (F-1) via the access panel.
- ❑ Carefully *lift and secure* the cutter head assembly frame to *remove pressure* on the chamfer length cam caused by the chamfer depth assembly wheel (F-2).
- ❑ Use a hand tool to *loosen and remove* trantorque cam bushing, then *carefully pull* chamfer length cam outward and *off of* the shaft.
- ❑ Place new chamfer length cam *onto* the shaft, then *return* the trantorque cam bushing and *hand tighten only*.
- ❑ **Note:** Do not completely tighten bushing until chamfer length cam has been set per the instructions that follow on the next page.



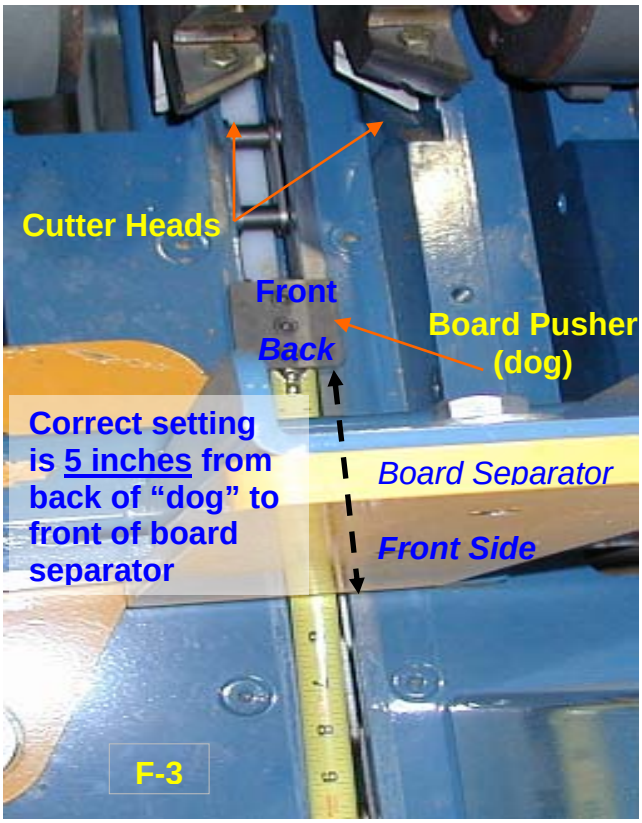


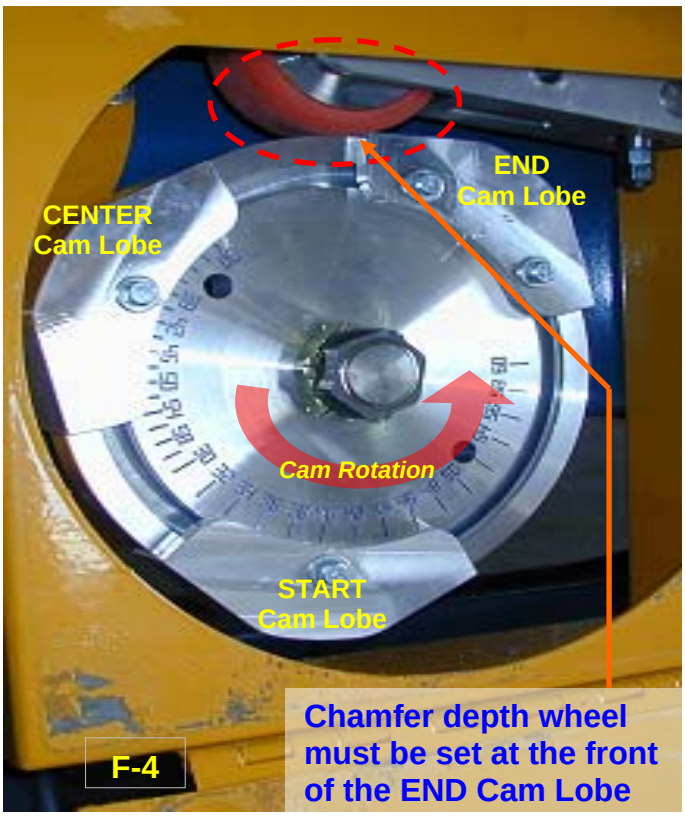
Setting the Chamfer Length Cam

DANGER ***Lockout / Tagout prior to setting or re-setting chamfer length cam***



- ❑ Ensure machine power is off and locked-out / tagged-out.
- ❑ *Remove* the guard that covers the cutter heads and the guard for the main drive chain.
- ❑ Carefully *lift and secure* the cutter head assembly frame to *remove pressure* on the chamfer length cam caused by the chamfer depth assembly wheel (see F-2 on previous page).
- ❑ Use a hand tool on the main drive chain sprocket **nut** to *cycle* the feed chain *forward* until the **back** of a board pusher (dog) is set **5 inches** from the board separator (F-3).
- ❑ Ensure trantorque cam bushing is loose enough that the chamfer length cam can be *rotated* by hand and *set* to the position noted below (F-4).
- ❑ When the tasks above are complete, *tighten* the trantorque cam bushing to the recommended tightness of *440 ft / lbs.*
- ❑ **NOTE***:* See ***Diagram A*** for instruction on adjusting chamfer length cam for in-feed board length; ***Diagram B*** for adjusting off-load stacker length; and ***Diagram D*** for setting chamfer depth.
- ❑ When all settings are complete, *return and secure* the guards and access panel.
- ❑ Cycle sufficient test boards to verify proper settings have been made.





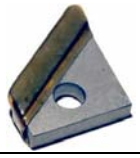
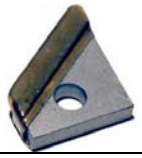
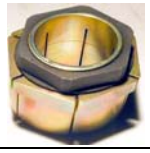
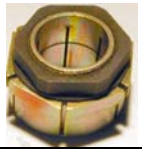
Troubleshooting Chart

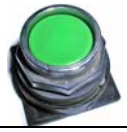
Lockout / Tagout prior to performing any checks or maintenance

If	Check
Machine won't start	• Verify incoming voltage and available amperage are equal to what the machine was wired for at the factory. • Inspect for loose connection(s). • If trouble continues contact our service department or have a qualified electrician trouble-shoot the problem.
Boards jam or kick-back	• Power-down and Lockout / Tagout machine. • Clear machine and re-start operations. • Check end stop to ensure it is set for the board length being chamfered *(see **Diagram B** on page 19).*
Degrading chamfer quality	• Power-down and Lockout / Tagout machine. • Safely inspect cutter blades for sharpness; replace as necessary. • Check and verify depth of chamfer setting.
Boards won't stack	• Power-down and Lockout / Tagout machine. • Check end stop to ensure it is set for the board length being chamfered *(see **Diagram B** on page 19).* • Check off-load stacker timing, set or re-set if necessary *(see **Diagram E** on pages 22-23).*

PARTS AND SERVICE
Parts List

Part No. & Pic.	Description		Part No. & Pic.	Description
101194 	BEARING 1-1/2" (2) BOLT FLANGE 5/8" BOLT HOLE		101146 	3/4" PRESS IN STYLE BEARING WITH RING
101004 	1-1/2" PRESS IN STYLE BEARING WITH RING		101257 	BEARING 6202LL X 5/8"
101193 	BEARING 1"POWER HOLD DOWN		101008 	BEARING GUIDE WHEEL ROLLER
121009 	CHAIN #60 ROLLER		121010 	CHAIN #60 CONNECTOR LINK
271067 	500A1-1/2"MORSE TORQUE LIMITER UNSCRAMBLER		251034 	BUSHING MORSE
131015 	SPROCKET 500AG625		131115 	SPROCKET 60B28 X 1-1/4"
133396 	SPROCKET 6012 X 1-1/4"		131082 	SPROCKET 60BB13H X 5/8" IDLER
131100 	SPROCKET 60B20F X 1"		133378 	SPROCKET 80A24 W/ 1" BORE

Part No. & Pic.	Description		Part No. & Pic.	Description
133397 	SPROCKET 80B24 W/ 3" BORE W/ NO K-WAY NO SET SCREWS		133379 	SPROCKET 60B36 X 1-1/4" FIXED BORE
121021 	CHAIN #80 HOLLOW PIN		141606 	CHAMFER HEAD 10" X 8" W/ 2" BORE NO KEYS (LEFT/RIGHT)
141135 	CUTTER TEETH (RIGHT SIDE)		141136 	CUTTER TEETH (LEFT SIDE)
151906 	ELECT 5HP MOTOR 3600RPM 184TC 230/460V HOSTILE DUTY		171086 	REDUCING WASHER 1" X 1/2"
171614 	1-1/2" RED MEDIUM HAMMER TIP		171039 	2PC LOCKING COLLAR 1-1/2"
171418 	COT STEEL EXTENSION SPRING 3" X 3"		201168 	SPRING AJAX #64A
251106 	BUSHING TRANTORQUE 1-1/2" LONG DBL NUT		251104 	BUSHING TRANTORQUE 1-1/8" DBL NUT
251111 	BUSHING TRANTORQUE 1" SHORT		101056 	BEARING MCGILL CAMFOLLOWER
274015 	LEESON GEAR BOX 20:1 W/ 3HP MOTOR C-FACE 208/230/460V AC		161172 	DOG (BOARD PUSHER)

Part No. & Pic.	Description		Part No. & Pic.	Description
151250 	ELECT RECESSED PUSH-BUTTON		151252 	ELECT TWIST RELEASE E-KILL BUTTON
151246 	ELECT DUST CAPS/RUBBER BOOT		151254 	ELECT N/O C-BLOCK GREEN
151253 	ELECT N/C C-BLOCK RED		205079 	WHEELS RED MICRO SCOOTER W/BEARING
171097 	SPHERICIAL ROD END LEFT 5/8"-18 MALE THREAD		171095 	SPHERICIAL ROD END RIGHT 5/8"-18 FEMALE THREAD

Service Contact Information

In the event that you have any problems, call us at (573) 663-7711 any time between 8:00 AM and 5:00 PM (CST), Monday through Friday.

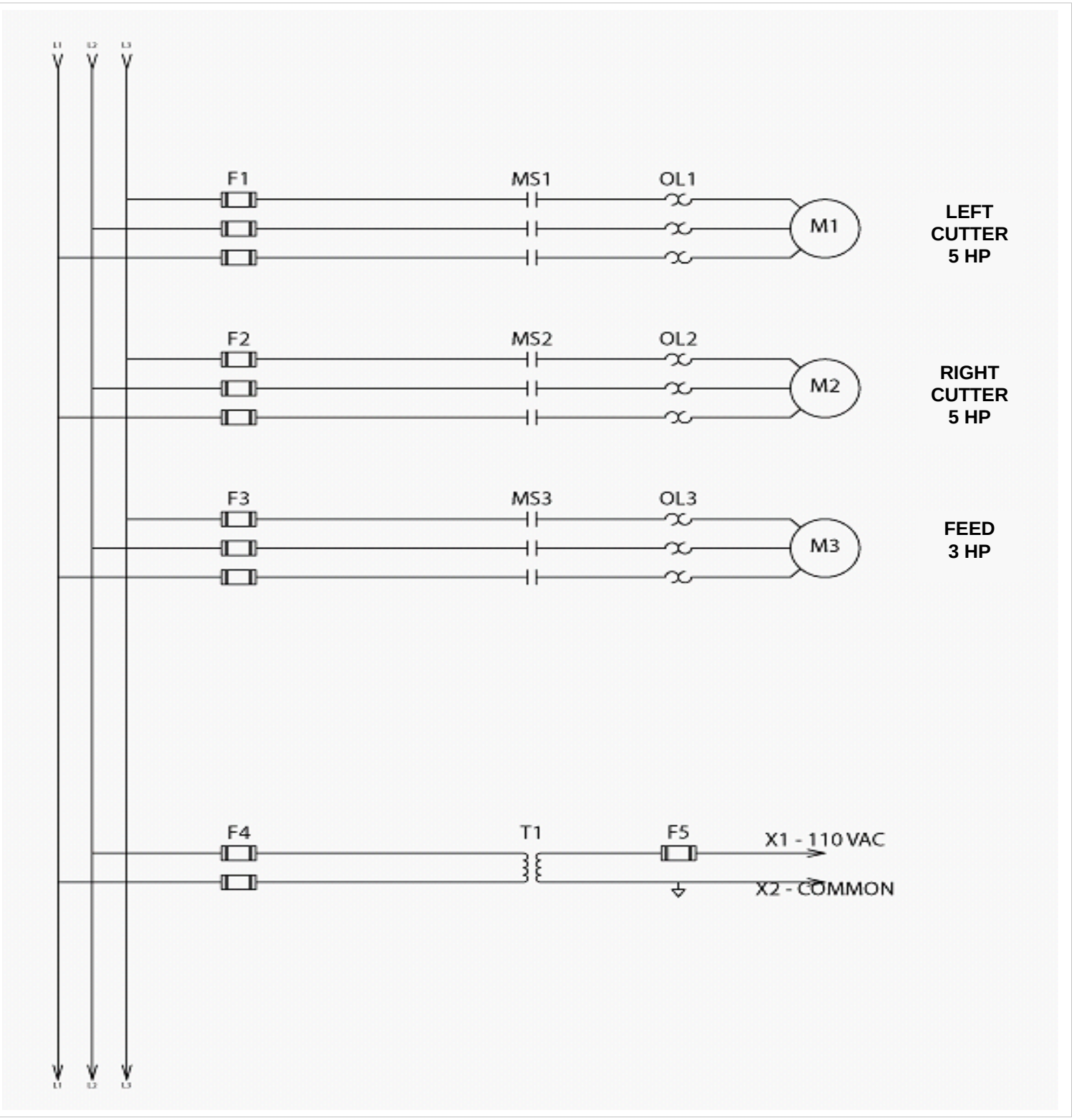
Serial Number Location

The model and serial number are located on the front right side of the machine.

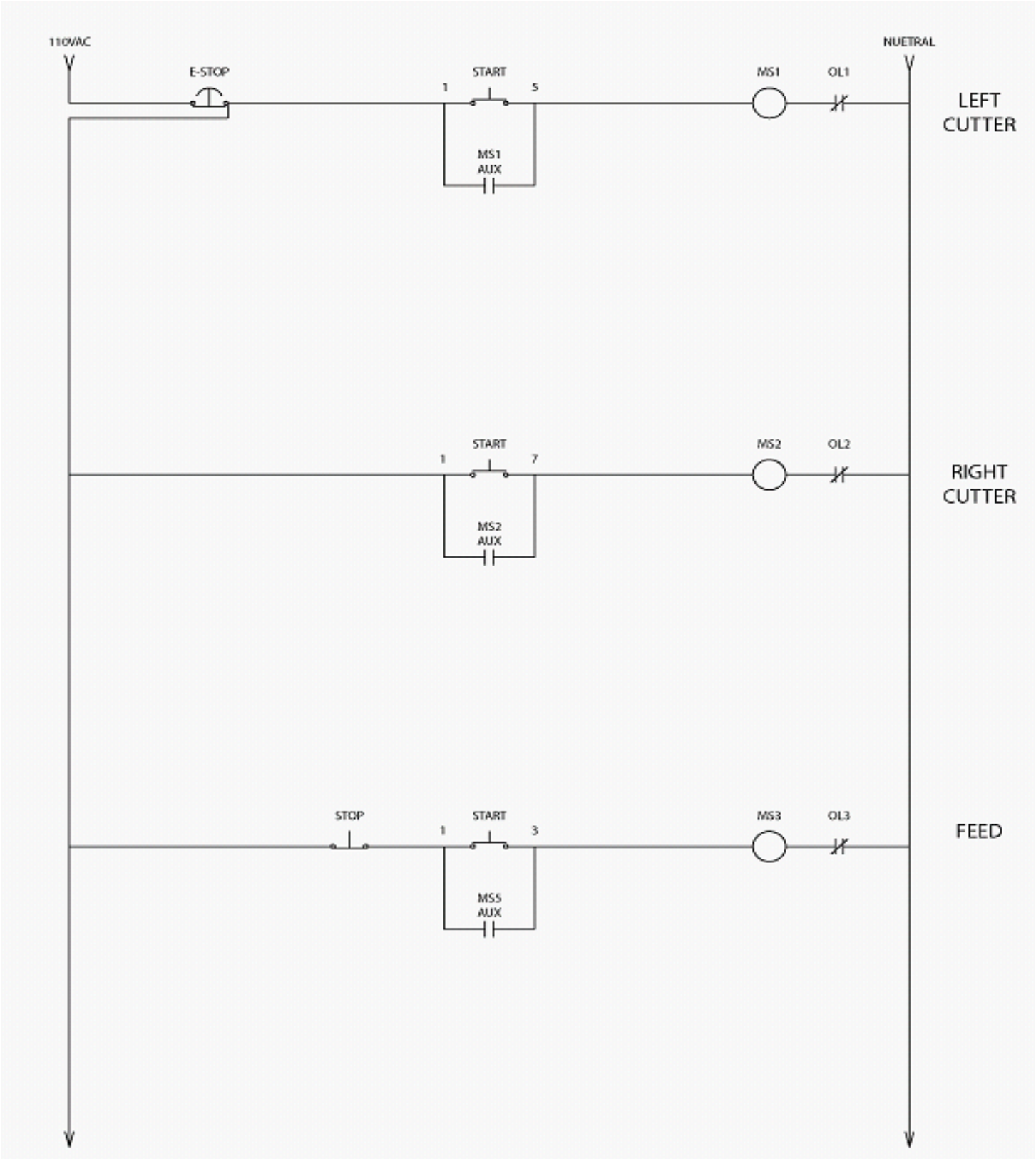
Please refer to your serial number and model number when speaking to a service technician or ordering replacement parts.

DRAWINGS AND DIAGRAMS

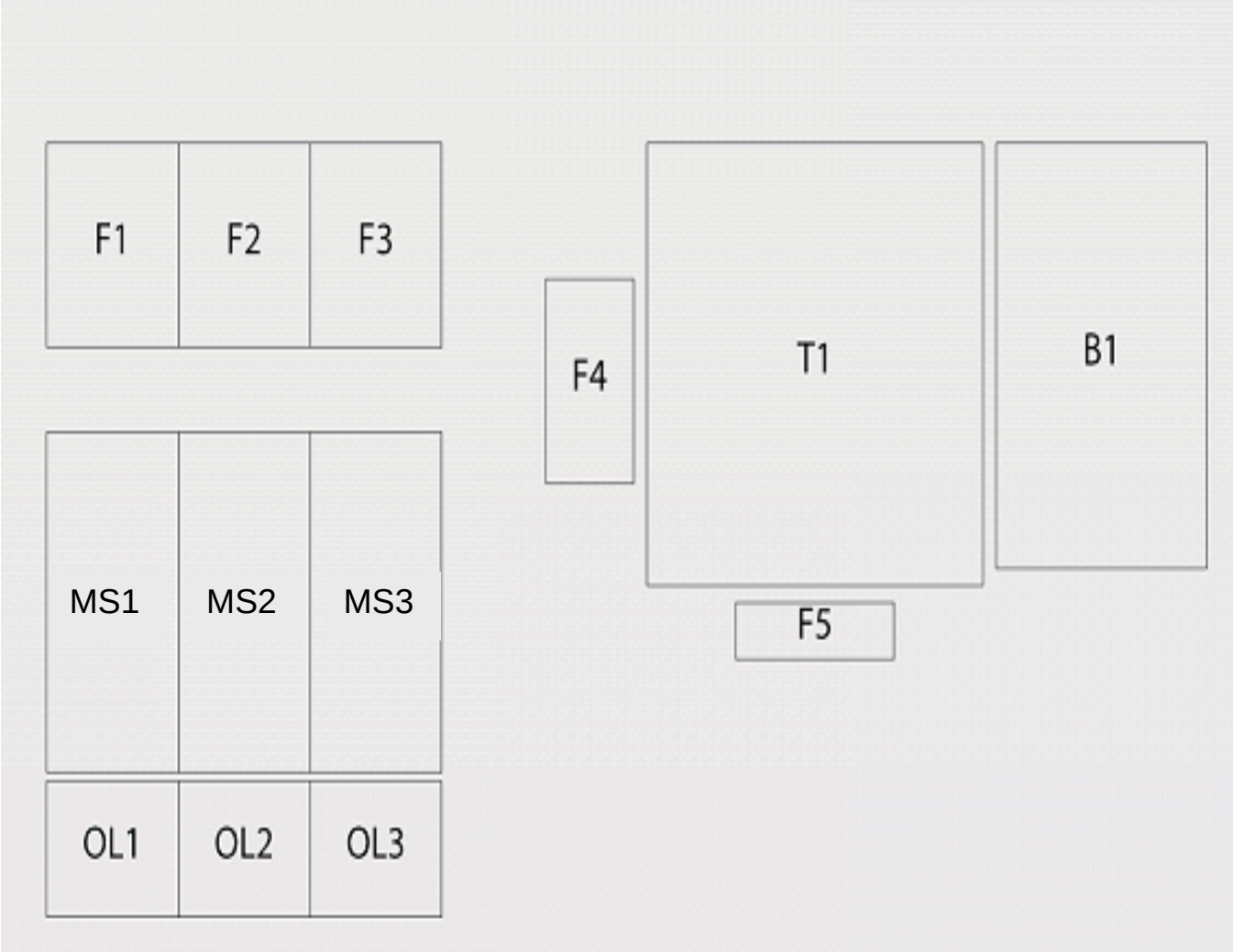
Main Diagram



Logic Diagram



Block Diagram



Block	Description	Part No.
B1	30 AMP BREAKER	152491
T1	250VA TRANSFORMER	151295
F1	FNQ-25 FUSE	FNQ-25
F2	FNQ-25 FUSE	FNQ-25
F3	FNQ-15 FUSE	151399
F4	FNQ-5 FUSE	151390
F5	FNQ-2 FUSE	151386
MS1	CL25 MOTOR CONTACTOR	151324
MS2	CL25 MOTOR CONTACTOR	151324
MS3	CLO1 MOTOR CONTACTOR	151350
OL1	OVERLOAD	151309
OL2	OVERLOAD	151309
OL3	OVERLOAD	151839